

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: JOO, IN-SU, et al. )  
Serial No.: 10/538,779 ) Group Art Unit: 2814  
Filed: December 30, 2005 )  
For: THIN FILM TRANSISTOR ARRAY ) Examiner: WEISS,  
PANEL FOR X-RAY DETECTOR ) HOWARD  
 ) Confirmation No. 5493  
 )

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In response to the Final Office Action mailed July 07, 2008, and in conjunction with the Notice of Appeal filed concurrently herewith, the Applicants submit the following remarks in support of the Pre-Appeal Brief Request for Review:

## REMARKS

The present submission is responsive to the Final Office Action of July 07, 2008, in which claims 1-6 are currently rejected. Reconsideration is respectfully requested in view of the following remarks. Claims 1-6 are pending in the present application and claims 1-6 remain pending for further consideration. No new matter has been added.

### **Claim Rejections Under 35 U.S.C. §102**

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Bariant, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988).

Furthermore, the single source must disclose all of the claimed elements “*arranged as in the claim.*” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984) (Emphasis added).

Claims 1-4 stand rejected under 35 U.S.C. §102(b) as being allegedly anticipated by Possin, et al. (U.S. Patent No. 6,396,046, hereinafter “Possin”). Specifically, on pages 2-3 of the Final Office Action, the Examiner states that Possin discloses all of the elements of claims 1-4, primarily in FIGS. 1-3 and at column 5, lines 39-63. Applicants respectfully traverse for at least the following reasons.

It is respectfully noted that Possin does not teach or suggest a second electrode facing the first electrode of the photodiode, as disclosed in previously presented independent claims 1 and 3. Specifically, although the Examiner states on page 2 of the Final Office action that Possin discloses “a second electrode 165”, component 165 of Possin is actually an exposed contact area 165 (of the photosensor island 164) uncovered by etching away a portion of the light transmissive dielectric layer 170, as described at column 6, lines 26-31 of Possin. Thus, the invention of Possin discloses only the allegedly analogous bias signal line 180 disposed directly on the photosensor island 164; Possin therefore fails to teach or suggest not only the second electrode itself, but also all associated connections thereto as disclosed in claims 1 and 3 of the instant application (such as the bias signal line connected to the second electrode, for example).

In addition, Possin fails to teach or suggest a light blocking layer disposed directly on a passivation layer. Specifically, as the Examiner states on pages 2 and 3 of the Final Office Action (and referring particularly to FIG. 3 of Possin), the bias signal line 180 is disposed between the light blocking layer 190 and the passivation layer 170. Thus, the light blocking layer of Possin is not disposed directly on the passivation layer 170.

Furthermore, Applicants respectfully note that the light blocking layer 190 of FIG. 3 illustrates an intermediate state of a manufacturing process of the device of Possin. More specifically, the light blocking layer 190 shown in FIG. 3 must be patterned and etched away to form the opaque shield 195, as described at column 6, lines 56-58 of Possin. Put another way, FIG. 3 of Possin illustrates an inoperable device, in that the light blocking layer 190 as shown in FIG. 3 (i.e., before substantial portions thereof have been etched away) covers the entire surface of the device, shielding all components thereunder and thereby completely preventing photodetection of any radiation.

Thus, Possin neither teaches nor suggests *a second electrode [of the photo diode] which faces the first electrode... and a photo-conductive layer disposed between the first electrode and the second electrode; ... the passivation layer having a contact hole which exposes the second electrode; a bias signal line disposed on the passivation layer and connected to the second electrode through the contact hole; and a light blocking layer disposed directly on the passivation layer and the bias signal line to cover the photo diode* (as in claim 1 of the instant application) or *a second electrode [of the photo diode] which faces the first electrode... a photo-conductive layer disposed between the first electrode and the second electrode; ...the passivation layer having a contact hole which exposes the second electrode; and a bias signal line disposed directly on the passivation layer, connected to the second electrode through the contact hole and comprising a light blocking layer which covers the photo diode* (as in claim 3 of the instant application). As a result, Possin fails to teach or suggest all of the claimed elements arranged as in claims 1 and 3. Thus, it is respectfully submitted that claims 1 and 3, including claims 2 and 4 depending therefrom, define over Possin.

Accordingly, it is respectfully requested that the rejection to claims 1-4 under 35 U.S.C. § 102(b) be withdrawn.

**Claim Rejections Under 35 U.S.C. § 103**

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Possin in view of Sakaguchi, et al. (U.S. Patent No. 6,453,008, hereinafter “Sakaguchi”). Specifically, on page 3 of the Final Office Action, the Examiner states that Possin teaches “most aspects of the instant invention”, as disclosed in Claims 5 and 6, except “a region [of] the semiconductor layer disposed between the source and drain electrodes which is disconnected and void of any semiconductor material”, which the Examiner further states is taught by Sakaguchi, primarily at column 7, lines 28-43. Applicants respectfully traverse for at least the following reasons.

Applicants first respectfully submit that, as described above with reference to claims 1 and 3, both Possin and Sakaguchi, alone or in combination, fail to teach or suggest a second electrode of the photo diode (as well as all associated connections thereto), as disclosed in claim 5 of the instant application.

In addition, Applicants respectfully disagree with the Examiner’s assertion, on pages 3-4 of the Final Office Action, that Sakaguchi teaches or suggests the deficiencies noted by the Examiner with respect to Possin. Specifically, Sakaguchi is completely silent regarding any semiconductor material (or disposition of layers thereof), as well as light-producing elements of pixels, let alone disconnecting/removing material from portions of these elements to form a shielded pixel. More specifically, the description of Sakaguchi teaches either covering a given pixel with lead or, alternatively, not providing a voltage application electrode 101 associated with the given pixel, to “shield” the given pixel (see, e.g., column 7, lines 28-43). Nowhere in Sakaguchi is any type of

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semiconductor material described or even mentioned and, as a result, there simply is no teaching or suggestion therein to modify the same, as taught by (and claimed in) the present invention.

Therefore, neither Possin nor Sakaguchi, alone or in combination, teach or suggest *a second electrode [of the photo diode] which faces the first electrode ... a photo-conductive layer disposed between the first electrode and the second electrode ... a bias signal line connected to the second electrode, wherein the semiconductor layer is disconnected in a region disposed between the source electrode and the drain electrode, and the region disposed between the source electrode and the drain electrode is absent semiconductor material* as recited in independent claim 5.

Thus, it is respectfully submitted that claim 5, including claim 6 depending therefrom, defines over the cited references.

Accordingly, it is respectfully submitted that the rejection of claims 5 and 6 under 35 U.S.C. § 103(a) be withdrawn.

For the above stated reasons, it is respectfully submitted that the final rejection of claims 1-6 is in error and that the same are allowable over the art of record. The fee set forth in 37 CFR 41.20(b)(1) is enclosed herewith. However, if any fees are due with respect to this submission, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

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